The present listing of claims replaces all prior versions.

1. (Currently Amended) A method of treating sleep disordered breathing comprising the steps of determining the likelihood of a patient being asleep, delivering treatment at a baseline level if said patient is asleep, determining the presence of an obstruction in said patient's airway, and if an obstruction is present increasing treatment until said obstruction is no longer present, wherein said treatment includes ~~and of~~ applying electrical stimulation of nerves ~~to increase muscle tone of upper airway muscles, wherein the application of electrical stimulation is based upon the likelihood of the patient being asleep~~.

2. (Currently Amended) The method of ~~A method as claimed in~~ claim 1 whereby the afferent nerves are stimulated.

3. (Original) The method of claim 2 whereby the site of electrical stimulation is within or adjacent to the genioglossus muscle.

4. (Original) The method of claim 2 whereby the site of electrical stimulation is in the vicinity of the hypoglossal motor nucleus or excitatory afferent nerve pathways leading to this structure.

5. (Original) The method of claim 1 whereby the electrical stimulation comprises trains of electrical pulses.

6. (Original) The method of claim 5 whereby the train length is approximately 10-30 pulses.

7. (Currently Amended) A method of treating sleep disordered breathing comprising the steps of determining the likelihood of a patient being asleep, delivering treatment at a baseline level if said patient is asleep, determining the presence of an obstruction in said patient's airway, and if an obstruction is present increasing treatment until said obstruction is no longer present, wherein said treatment includes ~~and of~~ applying mechanical stimulation of nerves to increase muscle tone of upper airway muscles~~, wherein the application of mechanical stimulation is based upon the likelihood of the patient being asleep~~.

8. (Original) The method of claim 7 whereby mechanical stimulation is performed by a piezo electric mechanical element implanted at a site in the vicinity of the upper airway.

9. (Original) The method of claim 8 whereby the piezo-electric mechanical element is implanted within or adjacent to the base of the genioglossus muscle.

10. (Original) The method of claim 7 whereby the mechanical stimulation is periodic.

11. (Original) The method of claim 10 whereby the period is in the order of several seconds of vibration.

12. (Original) The method of claim 7 whereby the mechanical vibration occurs at frequencies in the range of 10-50 Hz.

13. (Previously Presented) The method of claim 1 whereby stimulation is repeated in accordance with the detected state of the airway.

14. (Previously Presented) The method of claim 1 whereby stimulation is carried out in accordance with a model of Cheyne-Stokes Respiration.

15. (Currently Amended) Apparatus for treating respiratory disorders comprising a piezo-electric mechanical element adapted for implant within or adjacent to the base of genioglossus muscle, a detector to detect thoracic impedance changes and the presence of an obstruction, a controller adapted to elicit vibration of the element via an electrical signal, a real time clock for determining time of day, and a position sensor for sensing postural state.

16-31. (cancelled)

32. (Previously Presented) The method of claim 7 whereby stimulation is repeated in accordance with the detected state of the airway.

33. (Previously Presented) The method of claim 7 whereby stimulation is carried out in accordance with a model of Cheyne-Stokes Respiration.